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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,369	08/04/2005	Mark R. Hagan	3402.1026-003	4652

22852 7590 11/14/2008

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER	
HENDRICKSON, STUART L	

ART UNIT	PAPER NUMBER
1793	

MAIL DATE	DELIVERY MODE
11/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,369	HAGAN ET AL.	
	Examiner	Art Unit	
	Stuart Hendrickson	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/25/08*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *8-15 and 17-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,16 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/29/05, 10/26/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The election without traverse is noted. Claims 8-15, 17-20 are withdrawn.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 7, 16, 21 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Liu et al. 7195742.

Liu teaches in col. 1-3 oxidizing CO in a reformate for use in a fuel cell and controlling the oxygen amount infed. The ability to calculate the oxygen needed is implied in the teachings of optimization, thus no differences are seen, Even though the verbiage is not identical. Claim 2 is axiomatic- one must be able to tell the capabilities of the machines being used to control the process.

Claims 1-7, 16, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu. Liu teaches a fuel cell system, but does not specify the anode. However, this is an obvious expedient to provide hydrogen where it is needed/desired in a fuel cell system. The other claims

are obvious for the reasons above, should a difference actually exist in the manner the calculations are made, in order to optimize the reaction.

Claims 1-7, 16, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahlich article.

The reference teaches selective CO oxidation of a reformate in conjunction with a fuel cell. Page 44 teaches plural inlets and how to calculate the oxygen demand. Using the present calculation mode, if different, in the process of Kahlich is an obvious expedient to remove the undesired CO. As for claim 6, Kahlich teaches a fuel cell system, but does not specify the anode. However, this is an obvious expedient to provide hydrogen where it is needed/desired in a fuel cell system.

Claims 1-5, 7, 16, 21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Heil et al. 6287529.

Heil teaches in col. 3 and col. 7 varying the oxygen supply at several places in a cO oxidation unit connected to a reformer. The ability to calculate the oxygen needed is implied in the teachings of optimization, thus no differences are seen, Even though the verbiage is not identical. Claim 2 is axiomatic- one must be able to tell the capabilities of the machines being used to control the process.

Claims 1-7, 16, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heil. Heil teaches a fuel cell system, but does not specify the anode. However, this is an obvious expedient to provide hydrogen where it is needed/desired in a fuel cell system. The other claims are obvious for the reasons above, should a difference actually exist in the manner the calculations are made, in order to optimize the reaction.

Any inquiry concerning this communication should be directed to examiner Hendrickson at telephone number (571) 272-1351.

/Stuart Hendrickson/
examiner Art Unit 1793